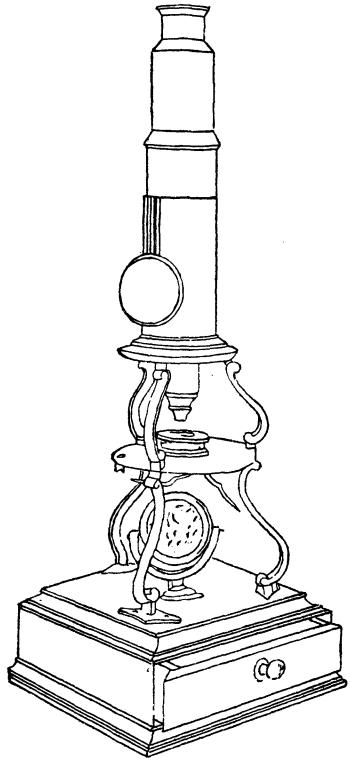
AN OLD MICROSCOPE OF THE CULPEPER TYPE.

By J. F. Henrici and C. C. Mellor.

This microscope was recently found in an old cupboard belonging to the Harmony Society at Economy, Pa., where it had been for many years, but to whom it originally be-



longed nobody knows, as the Harmonists have everything in common. It was probably brought over by some of the early

members of the society at the time when they settled in the country in 1803–5.

The instrument, including the wooden base, and with the draw-tube pushed in, stands 16½ inches high. It is similar in every detail to one figured in Plate IV of Adams's "Essays on the Microscope," published at London in 1787, with the single exception that the present instrument has a rack and pinion movement for focusing, and may therefore be assigned to a date a little later than the above; for the addition of the rack and pinion is certainly an improvement upon the form figured by Adams, in which focusing was effected by sliding the inner tube within the outer by hand; but it cannot be assigned to a much later date, for this type of microscope went out with the century. It is surprising that it should have lasted so long as it did — about half a century — in view of the grave objection pointed out by Adams in the extract given below, and the equally serious defect of instability, due to the slender, double tripod by which the stage and body were supported.

Adams's description is as follows: "This instrument is recommended by its simplicity and cheapness; it is easily managed, and gives a pleasing view of an object. It is true, it is precluded by its form from some of the advantages of the two foregoing instruments, because both the stage and the mirror are confined.

"This microscope consists of a large exterior body supported on three small scrolls, which are fixed to the stage; the stage is supported by three larger scrolls, that are screwed to the mahogany pedestal. There is a draw in the pedestal which holds the apparatus. The concave mirror is fitted to a socket in the center of the pedestal. The lower part of the body forms an exterior tube, into which the upper part of the body slides, and may be moved up or down, so as to bring the magnifiers nearer to, or further from, the object."

Accompanying the instrument are five objectives, consisting each of a single bi-convex lens, and ranging in magnifying power from forty to three hundred diameters. There are also five "ivory sliders," as Adams calls them, each containing four objects, mounted dry, between thin plates of mica, secured within circular perforations in the slides by means of sprung rings of brass. One slide shows animal parasites, another vegetable sections, a third parts of plants, a fourth fish scales, and the fifth various objects.

The accessories with the instrument are exactly those described by Adams as follows:

1. A small, silver, concave speculum, designed to reflect the light from the mirror on opaque objects.

2. A long, steel wire, with a small pair of pliers at one end, and a steel point at the other; the wire slips backwards and forwards in a spring tube, which is affixed to a joint, at the bottom of which is a pin to fit one of the holes in the stage; this piece is used to confine small objects [stage forceps].

3. A fish-pan, whereon a small fish may be fastened, in order to view the circulation of the blood; its tail is spread across the oblong hole at the smallest end, and tied fast by means of a ribbon affixed thereto; by shoving the knob which is on the back of it through the slit made in the stage, the tail of the fish may be brought under the lens which is in use.

4. A box with two flat glasses which may be placed at different distances from each other in order to confine a small, living insect [live box].

5. A brass cone; it fixes under the slider-holder. It is used to lessen occasionally the quantity of light which comes from the mirror to any object.